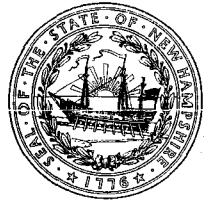




The State of New Hampshire
Department of Environmental Services



Michael P. Nolin
Commissioner

Mr. Robert Van Dyke
P.O. Box 197
Rindge, NH 03461

July 12, 2005
Letter of Deficiency
DSP#05-021

RE: Van Dyke Dam #203.44, Rindge

Dear Mr. Van Dyke:

The Department of Environmental Services, Dam Bureau (DES) consistently strives to enhance the safety of dams in New Hampshire through its dam safety program. One of the many instruments that play a part in reaching this goal is our inspection program. DES is forwarding this correspondence to you to advise you that in accordance with RSA 482:12 and Env-Wr 502.02, an inspection of the subject dam was conducted on September 16, 2004 and May 24, 2005. During these visual inspections and/or file review, the following deficiencies were observed:

1. Seepage was observed in the following two locations:
 - a. At the downstream right wingwall between where the low-level concrete encasement and the wingwall are connected;
 - b. Approximately 5 feet downstream of the low-level valve along the footing of the right downstream wingwall water was boiling (water under pressure) with a well-defined iron staining around the boil. No fines were observed within the bubbling water;
2. The right upstream stone masonry wall was cracked and settled at the intersection between the upstream concrete wingwall and the upstream earth embankment. The settlement is likely due to high water, differential settlement associated with the different foundation material (concrete and earth), and freeze and thaw action;
3. Trees and brush were growing on the left upstream and downstream embankments;
4. Three stonewalls on the left upstream crest and downstream embankment were cracked with what appeared to be associated settlement between each wall. Voids were observed below the stone masonry wall at the crest of the dam and at the base of the stone masonry wall along the downstream embankment. Voids ranged over 4 feet in depth on the downstream side of the concrete ramp below the wall on the crest of the dam and at the downstream stone masonry wall adjacent to the downstream concrete wingwall. It should also be noted that the void at the base of the downstream stone masonry wall was noted in the previous inspection. Also noted in the previous inspection was seepage in this area with the surface water of the pond approximately 1.5 feet below the concrete wingwalls of the dam. During this inspection, the surface water was approximately 3 feet below the concrete wingwalls with no seepage observed at the downstream stone masonry wall as previously noted; and
5. The stoplogs were being operated 2.0 feet above what was originally permitted and the emergency spillway as permitted has not been constructed. However, the hydrologic analysis supports the boards being 1 foot lower than the currently operated position of 1.5 feet below the concrete wingwalls with the emergency spillway remaining as is.

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DES believes that the above deficiencies can be corrected by performing the following items by the indicated schedule:

September 1, 2005:

1. Determine the origin of the seepage boiling near the base of the downstream concrete wingwall and develop a plan to repair the condition by December 1, 2005;
2. Remove 2 rows of stoplogs from each bay and maintain the water at this level. This configuration should correspond to an elevation 1 foot below the level of the logs in the three left bays that existed at both the September 16, 2004 and the May 24, 2005 inspections. It should be noted that an alternate configuration of stoplogs and the emergency spillway could be considered as long as the dam passes the design storm with 1 foot of freeboard. If an alternative stoplog and emergency spillway configuration is desired contact the Dam Bureau to discuss further options as a permit for reconstruction may be required depending on the alternative choice;
3. Remove the trees and brush from the left upstream and downstream embankment and continue to maintain an area at least 50 feet left of the covered bridge (see sketch);
4. Investigate the cracking and voids associated with the stone masonry walls on the left side of the dam and develop a plan to fix the voids by December 1, 2005. It should be noted that the plan developed should be submitted to the Dam Bureau for review;

On a Continual Basis:

5. Monitor the seepage near the connection between the right downstream wingwall and the connection to the concrete encased low-level outlet. If there is a significant change in the seepage, contact our office as soon as possible; and
6. Monitor the right upstream stone masonry wall for further deterioration and repair as necessary.

DES is requesting that you complete and submit the attached "Intent to Complete Repairs" form, within 30 days of receipt of this letter, that will provide for correction of the identified deficiencies by the date(s) indicated above. Please call or write to our office if the repairs are completed ahead of the aforementioned schedule so that DES may schedule a follow-up inspection. Unless notified otherwise, DES will conduct the follow-up inspection on or after the date(s) indicated above. If you believe changes to the items of work or dates are necessary, please make the changes directly on the form and provide a brief explanation. We have enclosed a self addressed stamped envelope for you to return this form.

Our intent in sending you this correspondence is to make you aware of items that DES believes warrant your attention to insure the continued safe operation of your dam. It is our hope that, through the submittal of the attached form and a commitment to keeping a well-maintained dam, you will voluntarily comply with the requested items of work. If we do not receive the intent form or a similarly adequate written reply, we will assume that you are in agreement with our findings and recommendations and DES will carry out follow-up inspections accordingly.

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If you have any questions or comments regarding this Letter of Deficiency or would like to be present at future inspections, please contact me at 271-3406, or write to the Water Division at the address listed on the bottom of the cover page.

Sincerely,


COPY
Dale P. Gumm, P.E.
Dam Safety Engineer

Attachments: Copy of O&M on file, Guideline for an O&M plan, Sketch Illustrating Deficiencies, DB8, DB13
cc: Gretchen R. Hamel, Legal Unit Administrator ✓
Town of Rindge
Certified # 7000 1670 0000 0588 6349
DFG/was/h:/safety/wendy/lod/203-44lod.doc